SENATE BILL No. 519

Introduced by Senators McClintock and Murray

February 18, 2005

An act to add Section 21655.10 to the Vehicle Code, relating to highways.

LEGISLATIVE COUNSEL'S DIGEST

SB 519, as introduced, McClintock. Highways: exclusive-use or preferential-use langes.

Existing law requires, prior to establishing exclusive-use or preferential-use traffic lanes for high-occupancy vehicles (HOV lanes), that the Department of Transportation and local authorities, with respect to highways under their respective jurisdictions, make competent engineering estimates of the effect of the lanes on safety, congestion, and highway capacity.

This bill would request the University of California, on or before January 1, 2007, to conduct a study, in consultation with the Department of Transportation, to evaluate the effectiveness of use of different types of highway lanes.

The bill would require the Department of Transportation to cooperate with the University of California in conducting the study and provide the university requested information. The bill would require the department to enter into a cooperative agreement with the university to provide reimbursement from resources currently available to the department for costs incurred by the university in completing the study.

Vote: majority. Appropriation: no. Fiscal committee: yes. State-mandated local program: no.

The people of the State of California do enact as follows:

SECTION 1. Section 21655.10 is added to the Vehicle Code, to read:

21655.10. (a) The Legislature requests that the University of California, on or before January 1, 2007, conduct a study, in consultation with the Department of Transportation, to evaluate the effectiveness of exclusive-use or preferential-use lanes for high-occupancy vehicles (HOV lanes) in this state. It is the intent of the Legislature that this study include a traffic model of not less than six months' duration that compares the alternatives of establishing an exclusive-use or preferential-use lane for high-occupancy vehicles (HOV lane alternative), establishing a high-occupancy toll lane (HOT lane alternative), as defined in subdivision (f), establishing a mixed-flow lane (mixed-flow lane alternative), or not establishing additional lanes (no-build alternative).

(b) It is the intent of the Legislature that the study identified under subdivision (a) cover an analysis segment consisting of at least the entire affected freeway section, or the corridor of which that freeway is a part, and the entire congested period of the day, and can include, but need not be limited to, all of the following:

(1) A modal choice submodel showing the fraction of travelers that will choose a high-occupancy vehicle mode, including, but not limited to, car pools, vans, or buses, instead of driving alone, dependent upon, but not limited to, the number of passengers required to qualify a vehicle as a high-occupancy vehicle and the HOV lane timesavings, the bus service available on the HOV lane, the current proportion of people using each HOV mode, and any other relevant factors. The submodel can be based on data gathered from interviews conducted with motorists.

(2) Distribution of the total freeway volume between the HOV lane and the mixed-flow lanes, dependent upon the modal choice fraction and the proportions of HOV's using the HOV lanes on highways with similar characteristics.

(3) A congestion submodel showing travel speeds and time, dependent on the vehicular volume in the various lanes and any downstream bottlenecks that affect the freeway.

(4) Calibration to confirm that the model yields results that are consistent with observed prebuild traffic volumes, speeds, and

number of car pools. The observed total prebuild person trips (over all modes) within the analysis segment, which is referred to as the "person-trips base," can be held constant and used as the basis for subsequent benefit calculations.

(5) Iteration of the model as necessary to ensure that the travel times found in paragraph (3) are consistent with those used in estimating the fraction choosing high-occupancy vehicle modes under paragraph (1).

(6) Total travel time, emissions, and fuel consumption can be computed by summing over the same "person-trips base" for each build alternative, and expressed as change relative to the no-build alternative.

(7) Emissions estimates, including carbon monoxide, carbon dioxide, hydrocarbons, and nitrogen oxides. Emissions and fuel consumption can be computed using methods of the State Air Resources Board and can be dependent upon vehicle miles traveled, vehicle trips, and average speeds in the various lanes.

(8) Capital costs, annual operating costs, and annualized capital and operating costs can be estimated for each alternative, incremental to the no-build alternative. Costs unusual to each alternative, including any special lane width, buffer lanes, additional shoulders, enforcement zones, merging regions, enforcement operation, and toll collection facilities can be separately identified and estimated.

(9) Cost-benefit ratios can be estimated for each alternative and expressed as dollars of total annualized cost per unit of benefit for each of the various benefit measures specified in paragraphs (6) and (7), when costs and benefits are calculated relative to the no-build alternative referred to in subdivision (a).

(10) Data sufficient to determine whether the use of high-occupancy vehicle lanes improves air quality to the extent included in the state implementation plan filed under the federal Clean Air Act (42 U.S.C. Sec. 7401, et seq.).

(11) A comparison of the number of traffic violations, accidents, injuries, and fatalities that occur on portions of highways that have high-occupancy vehicle lanes to portions of highways that do not have those lanes.

(12) A comparison of the average number of passengers per vehicle before the portion of the highway had an HOV lane with

the average number of passengers per vehicle after the portion of the highway had an HOV lane.

(13) An evaluation of relationships between public transit service and usage and the introduction and usage of high-occupancy vehicle lanes in a given corridor.

(14) A model evaluating the potential impact to public transit services in a given corridor if high-occupancy vehicle lanes are not used.

(c) The Legislature requests that the University of California, in consultation with the Department of Transportation, analyze the results of the study for those lanes that were examined, and issue findings and recommendations for the most efficient choice among the HOV lane alternative, the HOT lane alternative, the mixed-flow lane alternative, and the no-build alternative in terms of total person delay, emissions, and cost.

(d) The analysis results and a description of the methodology shall be documented in sufficient detail to support stand-alone, critical review, and duplication of the results.

(e) The Department of Transportation shall cooperate with the University of California in conducting the study identified in subdivision (a) and provide all information that is requested and deemed by the university to be necessary for the completion of the study.

(f) For purposes of this section, a "high-occupancy toll lane" or "HOT lane" is an HOV lane that, for a toll, may be used by vehicles with less than the number of passengers otherwise required to lawfully use the lane.

(g) The Department of Transportation shall enter into a cooperative agreement with the University of California for the purpose of providing reimbursement for the costs incurred by the university in completing the study identified in subdivision (a). The reimbursement shall be made from resources currently available to the department.

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